In the Claims

Claims pending

- At time of the Action: Claims 1, 3-7, 24, 25 and 28-45.
- After this Response: Claims 1, 3, 5-7, 24, 25, 28-30, 32-36, 38-42 and 44-45.

Currently Amended Claims: Claims 1, 5-7, 24, 25, 28, 34 and 40.

Currently Canceled claims: Claims 4, 31, 37 and 43.

1. **(Currently Amended)** A fuel cell system, configured to control temperature of individual fuel cells of a plurality of fuel cells by regulating serial vs. parallel configuration of the plurality of fuel cells within the system, the system comprising:

first and second fuel cells of the plurality of cells capable of providing an electrical output; and

a controller configured for regulating temperature of the fuel cell system by controlling serial vs. parallel configuration of the first and second fuel cells, wherein the controller is configured to identify whether more or less heat is required by the fuel cell system,

wherein the controller increases heat production by increasing fuel consumption by switching to a more serial configuration and decreases heat production by decreasing fuel consumption by switching to a more parallel configuration, and

wherein the controller is in communication with:

a switch circuit comprising one or more switches for arranging the electrical output of the first fuel cell and the electrical output of the second fuel cell in parallel or series; and

a temperature measurement circuit capable of measuring the temperature of the first fuel cell or the second fuel cell and providing a signal to the controller;

wherein the controller utilizes the switch circuit to switch to a more serial configuration if more heat is required and switches to a more parallel configuration if less heat is required.

2. (**Previously Canceled**)

3. (**Original**) The system of claim 1, wherein the first fuel cell and the second fuel cell comprises solid oxide fuel cells.

4. (**Canceled**)

5. (**Currently Amended**) The system of claim [[4]] 1, wherein the controller is configured to receive the signal from the temperature measurement circuit and to arrange the electrical output of the first fuel cell and the electrical output of the second fuel cell in response thereto.

6. (**Currently Amended**) The system of claim [[4]] 1, wherein the controller causes the switch circuit to arrange the electrical output of the first fuel

cell and the electrical output of the second fuel cell in parallel to increase electrical output efficiency of the first fuel cell and the second fuel cell.

7. (**Currently Amended**) The system of claim [[4]] 1, wherein the controller causes the switch circuit to arrange the electrical output of the first fuel cell and the electrical output of the second fuel cell in series to decrease electrical output efficiency of the first fuel cell and the second fuel cell.

8.—23. (**Previously Canceled**)

24. (**Currently Amended**) A fuel cell system comprising:

means for supplying an excess amount of fuel to a multiple fuel cell system;

means for regulating the temperature of the fuel cell system by controlling serial vs. parallel configuration of at least two fuel cells within the fuel cell system, wherein the means for regulating the temperature identifies whether more or less heat is required by the fuel cell system;

means for switching at least some of the fuel cells from a parallel electrical arrangement to a series electrical arrangement; and

means for producing heat from at least some of the excess amount of fuel, wherein the means for producing heat switches to a more serial configuration if more heat is required and switches to a more parallel configuration if less heat is required by the fuel cell system.

25. (**Currently Amended**) A fuel cell system comprising:

means for supplying a substantially constant amount of fuel to a multiple fuel cell system;

means for switching at least some of the fuel cells from a series electrical arrangement to a parallel electrical arrangement and maintaining a constant power output in each arrangement, wherein the means for switching switches to a more serial configuration if more heat is required and switches to a more parallel configuration if less heat is required by the fuel cell system;

means for increasing EMF efficiency; and

means for reducing fuel efficiency.

26. **(Previously Canceled)**

27. **(Previously Canceled)**

28. **(Currently Amended)** A fuel cell system, configured to control temperature of the fuel cell system by regulating a serial vs. a parallel configuration of cells within the system, the fuel cell system comprising:

a controller configured to identify whether more or less heat is required by the fuel cell system, and to increase or decrease heat generated by the fuel cell system by regulating a serial vs. a parallel configuration of cells within the system, wherein the controller iteratively measures fuel cell temperatures and iteratively reconfigures the fuel cell system in a more parallel or more serial configuration in response to changes in temperature of the fuel cell system;

a temperature measurement circuit, in communication with the controller, configured to measure temperature of at least one fuel cell and to provide a signal to the controller; and

a switching circuit to arrange the first and second fuel cells in a parallel or a series configuration in response to the controller;

wherein the controller utilizes the switching circuit to switch to a more serial configuration if more heat is required and to switch to a more parallel configuration if less heat is required.

29. (**Previously Presented**) The fuel cell system of Claim 28, wherein the controller alternates between increased heat production associated with a more serial configuration of the cells within the system and decreased heat production associated with a more parallel configuration of the cells within the system to provide fuel cell modulation and temperature control to the fuel cell system.

30. (**Previously Presented**) The fuel cell system of Claim 28, wherein the controller directs an excess supply of fuel to the system prior to identification of heat requirements of the fuel cells.

31. (**Canceled**)

32. (**Previously Presented**) The fuel cell system of Claim 28, wherein the controller is configured to supply an excess amount of fuel to multiple fuel cells, to receive a temperature measurement from the temperature measurement circuit, to switch at least some of the fuel cells from a parallel electrical

arrangement to a series electrical arrangement using the switching circuit in response to the measured temperature, and to thereby produce heat from at least some of the excess amount of fuel.

33. (**Previously Presented**) The fuel cell system of Claim 28, wherein the controller is configured to supply an excess amount of fuel to multiple fuel cells, to switch at least some of the fuel cells from a parallel electrical arrangement to a series electrical arrangement, and to produce heat from at least some of the excess amount of fuel.

34. (**Currently Amended**) A fuel cell system, configured to alternate between serial vs. parallel configurations of fuel cells within the system based on heat required by the system, the fuel cell system comprising:

means for controlling the fuel cell system, wherein the means for controlling is configured to identify whether more or less heat is required by the fuel cell system, wherein the means for controlling iteratively receives fuel cell temperature measurements and iteratively reconfigures the fuel cell system in a more parallel or more serial configuration in response to temperature changes;

means for measuring temperature within one or more fuel cells and for communicating with the means for controlling the fuel cell; and

means for switching the fuel cells between a parallel configuration and a serial configuration, in response to direction from the means for controlling the fuel cell;

wherein the means for controlling the fuel cell utilizes the means for switching to switch the fuel cell system to a more serial configuration if more heat

is required and to switch the fuel cell system to a more parallel configuration if less heat is required.

35. **(Previously Presented)** The fuel cell system of Claim 34, wherein the means for controlling is configured to switch fuel cells from a series electrical arrangement to a parallel electrical arrangement to increase EMF efficiency and reduce fuel efficiency.

36. **(Previously Presented)** The fuel cell system of Claim 34, wherein the fuel cells within the system comprise solid oxide fuel cells.

37. **(Canceled).**

38. **(Previously Presented)** The fuel cell system of Claim 34, wherein the means for controlling is configured to supply an excess amount of fuel to multiple fuel cells, to receive a temperature measurement from the temperature measurement circuit, to switch at least some of the fuel cells from a parallel electrical arrangement to a series electrical arrangement using the switching circuit, and to thereby obtain heat from at least some of the excess amount of fuel.

39. **(Previously Presented)** The fuel cell system of Claim 34, wherein the means for controlling is configured to supply a substantially constant amount of fuel to multiple cells within the fuel cell system, to switch at least some of the fuel cells from a series electrical arrangement to a parallel electrical arrangement, and to thereby increase EMF efficiency and reduce fuel efficiency.

40. (**Currently Amended**) A fuel cell system, configured to regulate temperature by alternating between increased and decreased heat production, the fuel cell system comprising:

a temperature measurement circuit configured to measure temperature of fuel cells within the system;

a switching circuit to change an arrangement of the fuel cells in either direction between a parallel configuration and a serial configuration; and

a controller configured to receive temperature measurement information from the temperature measurement circuit, to determine whether more or less heat is required by the fuel cell system, and to control the switching circuit and the configuration of the fuel cells, wherein the controller utilizes the switching circuit to switch to a more serial configuration if more heat is required and to switch to a more parallel configuration if less heat is required and wherein the controller iterates in a cycle of measuring fuel cell temperatures and reconfiguring the fuel cell system in a more parallel or more serial configuration in response to changes in temperature of the fuel cell system.

41. (**Previously Presented**) The fuel cell system of Claim 40, wherein the controller is configured to switch fuel cells from a series electrical arrangement to a parallel electrical arrangement to increase EMF efficiency and reduce fuel efficiency.

42. (**Previously Presented**) The fuel cell system of Claim 40, wherein the controller is configured to switch fuel cells between a series electrical

arrangement that increases fuel consumption and heat production and a parallel electrical arrangement that decreases fuel consumption and heat production.

43. **(Canceled)**

44. **(Previously Presented)** The fuel cell system of Claim 40, wherein the controller is configured to supply an excess amount of fuel to multiple fuel cells, to switch at least some of the fuel cells from a parallel electrical arrangement to a series electrical arrangement using the switching circuit, and to thereby produce heat from at least some of the excess amount of fuel.

45. **(Previously Presented)** The fuel cell system of Claim 40, wherein the controller is configured to supply a substantially constant amount of fuel to multiple cells within the fuel cell system, to switch at least some of the fuel cells from a series electrical arrangement to a parallel electrical arrangement, and to thereby increase EMF efficiency and reduce fuel efficiency.